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NUEXCO

MARCH 1985 NUMBER 199

MONTHLY REPORT

ON THE NUCLEAR FUEL MARKET

NUEXCO

HEADQUARTERS

Building 3, Suite 290
3000 Sand Hill Road
Menlo Park, California 94025
Telephone: (415) 854-1510
Telecopy: (415) 854-2115
Telex: 470674 (NUEXCO UI)

George White, Jr.

Christian C. Guitton

Mathias M. Klingler

Kim Peyton McDonald

R. Wesley Miller

Donald W. Radcliffe

EUROPE

13 chemin du Levant
01210 Ferney-Voltaire
France
Telephone: (33-50) 428035
Telecopy: (33-50) 428526
Telex: 385288 (NUEXCO F)

James E. Vaughan

Kathryn K. Bowen

W. Scott Hickman

James J. Lightner

NORTHEAST UNITED STATES

100 Prospect Street
Century Plaza South
Stamford, Connecticut 06901
Telephone: (203) 323-1999
Telecopy: (203) 325-1483
Telex: 4750124 (NUEXCO C)

Wayne D. Fowler

Robert J. Alexander

Earl E. Hoellen, Jr.

Teresa Elms Lindsay

SOUTHEAST UNITED STATES

Suite 905
Ten Piedmont Center
Atlanta, Georgia 30305
Telephone: (404) 262-7375
Telecopy: (404) 233-6210
Telex: 4611142 (NUEX ATL)

M. Jerry Reaves

James H. Allen

Kathleen Rouhota

(See inside back cover for list of Representatives and Consultants)

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MONTHLY REPORT ON THE NUCLEAR FUEL MARKET
March 1985 No. 199

R. WESLEY MILLER, *EDITOR* CLARK M. BEYER, *ASSOCIATE EDITOR*

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To Our Readers

We are pleased to announce the election of **James E. Vaughan** as President of Nuexco and **M. J. Reaves** as Senior Vice President.

* * *

T. A. (Tom) Boyden retired from Nuexco on February 28, 1985. Tom spent eleven years with Nuexco evaluating the feasibility and marketing strategies of uranium mining projects worldwide. During this period, Tom visited most of the world's important uranium districts, and shared his insight with Nuexco subscribers in the Raw Materials articles published in the Monthly Report.

Tom plans to continue his participation in the uranium industry as an independent consultant. He has formed TABCO, a company which will specialize in project identification and evaluation, ore reserve assessment, recovery technique, and marketing strategies. We wish him the best of luck.

Tom's new business address:

Thomas A. Boyden
P.O. Box 2068
Saratoga, CA 95070-0068
Telephone: (408) 255-3965.

* * *

Included with this Report is a map to our Atlanta offices. We welcome customer visits.

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NATURAL URANIUM AND SECONDARY MARKET CONVERSION

The **Exchange Value** as of February 28, 1985 is **$15.00** per pound U_3O_8, unchanged since last month. **Active supply** of natural uranium (U_3O_8 and UF_6) for spot or near-term delivery totals **5,315,000** pounds U_3O_8 or equivalent UF_6, up 1,135,000 pounds since last month. The corresponding figure for **active demand** is **2,270,000** pounds, up 1,005,000 pounds. The spot and near-term **supply-demand ratio** fell to **2.3:1.**

The *Current Market Data* section of this Report lists nine natural uranium sales transactions, involving a total of approximately 2,100,000 pounds equivalent U_3O_8. Five of the transactions reported this month involved natural UF_6, eight involved deliveries before 1986, and six met the criteria for inclusion in the current Transaction Value calculation. In addition, two low-enriched uranium transactions are reported.

The **Transaction Value** as of February 28, 1985 is **$15.70** per pound U_3O_8, down $0.50 since last month. The current Transaction Value includes 13 transactions involving a total of 2.3 million pounds U_3O_8 or equivalent UF_6 and covers a period of 4 months. The Transaction Value fell as a result of the removal from the calculation of four months' transactions involving some one million pounds of uranium. Those transactions, most of which took place in the summer of 1984, involved higher prices consistent with the significantly higher Exchange Value ($17.50) in those months.

The **Loan Use Charge Rate** as of February 28, 1985 declined to **5 percent** per annum as a lender offered a substantial quantity of material at that rate.

* * *

The Exchange Value remained at $15.00 in a market characterized by a widening range of prices at which transactions take place. Some evidence suggested a price firming, yet several buyers still found material available at prices below $15.00. Other transactions were concluded at or well above $15.00. Continued seller resistance to substantially lowering prices, combined with a growing feeling among discretionary buyers that market prices had temporarily stabilized, led to increased buying activity and an active month for transactions, including nine sales of natural uranium. Although substantial quantities of natural uranium remain available, downward pressure on prices appears to have subsided, at least temporarily.

* * *

The **Conversion Value** is **$1.00** per pound U in UF_6, unchanged since last month. Two secondary market conversion transactions are reported, involving approximately 200,000 pounds U in UF_6. Active supply of secondary market conversion services for delivery within three years totals 300,000 pounds U as UF_6. Active secondary market demand for conversion amounts to 255,000 pounds U in UF_6.

ENRICHED URANIUM AND SWUS

The Nuexco **SWU Values** as of February 28, 1985 are:

1. For **DOE origin,** a tails assay of 0.30 weight-percent U_{235}, and certifiable as excess:
   a. For FY85 delivery, **$102** per SWU, down 10;
   b. For FY86 delivery, **$20** discount from the USEC base price on delivery (15 last month);
2. For **other** SWUs (includes DOE origin SWUs not certifiable as excess and non-DOE origin SWUs):
   a. For delivery in calendar year 1985, **$80** per SWU, unchanged;
   b. For delivery in calendar year 1986, **$88** per SWU, down 2.

One secondary market SWU transaction is reported, involving less than 50,000 SWUs.

* * *

The decline in price for DOE-origin, certifiable as excess SWUs for delivery in fiscal year 1985 reflects the minimal demand for FY85 material. Almost all supply has been depleted, and substantial discounts can be found. Nevertheless, the market remains open until DOE announces new FY86 prices, expected this month. Some sellers with FY85 and FY86 SWUs are concentrating their sales efforts on the FY86 market, where known demand exists. Sellers realize that they should sell quickly, since prices are likely to drop soon after DOE announces new prices, especially in light of DOE's announced intentions relative to incentive pricing. With several sellers competing actively, discounts for FY86 SWUs have increased slightly.

The market for other SWUs (non-DOE or DOE SWUs not certifiable as excess), while relatively dormant, has loosened slightly. Prices are dropping slowly as non-DOE suppliers try to match DOE incentive pricing. This applies to SWUs purchased for delivery in 1987 and beyond.

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Nuexco's information indicates that the DOE incentive pricing initiative, although not public at press time, will be made available to all USEC customers with uncommitted requirements, including those customers that will reduce their 100-percent-of-requirements commitment to a 70-percent commitment as allowed under the USEC. DOE will send the offer to its customers in March, and customers will be required to respond within 45 days. It appears that FY87 and FY88 SWUs will be priced at $90 per SWU, while FY89 and FY90 SWUs will be priced at $90 per SWU, escalated. The escalated price for FY89 and FY90 material will follow the USEC escalation formula for FY87 SWUs. Utilities will be able to purchase incentive-priced SWU for the first two years, the first three years or all four years. The commitment must be made to DOE within the 45-day response period.

The DOE program depends on the acceptance of a certain percentage of customers, which is as yet unspecified. The effect of other terms contained in the USEC, such as the Variable Tails Assay Option (VTAO), will be determined depending on the response to the incentive plan. As in the case of the USEC itself, market reaction to DOE's sales efforts can still have an effect on the specific terms and conditions which will be made available to its customers.

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CURRENT MARKET DATA

February 28, 1985	Market Values	Active Supply[1] (thousands)	Active Demand[1] (thousands)
EXCHANGE VALUE	**$15.00**/lb. U_3O_8	5,315	2,270
CONVERSION VALUE	**$1.00**/lb. U in UF_6	300	255
SWU VALUES			
DOE origin, certifiable as excess, 0.3 tails assay			
FY85 delivery	**$102**/SWU		
FY86 delivery	**$20** discount/SWU		
Other SWUs (non-DOE or non-certifiable)			
calendar year 1985 delivery	**$80**/SWU		
calendar year 1986 delivery	**$88**/SWU		
LOAN USE CHARGE RATE	5%/annum	0	0

TRANSACTION VALUE	$/lb. U_3O_8	Millions of Pounds	Number of Transactions	Number of Months
	15.70	2.3	13	4

[1]Supply and demand tables in the *Current Market Data* section of this Report detail the numbers for each category.

DEFINITIONS

1. The **Exchange Value** is Nuexco's judgment of the price at which transactions for significant quantities of natural uranium concentrates could be concluded as of the date indicated.
2. The **Conversion Value** is Nuexco's judgment of the price at which spot and near-term transactions for significant quantities of conversion services could be concluded in the secondary market as of the date indicated.
3. The **SWU Values** represent Nuexco's judgment of the price at which transactions for the sale of significant quantities of SWUs of stated origin for delivery in the specified time period could be concluded as of the date indicated.
4. The **Loan Use Charge Rate** is Nuexco's judgment of the annual interest rate at which uranium loans could be concluded as of the date indicated.
5. The **Transaction Value** is a weighted average price of recent natural uranium sales transactions. The calculation is based on prices paid in:
   a. Transactions closed within the previous three-month period for which delivery is scheduled within one year of the transaction date;
   b. At least ten transactions;
   c. Transactions involving a sum total of at least 2 million pounds U_3O_8 equivalent.

   The sample time is extended as necessary to include these minima. Other currencies are converted to US dollars using conversion rates in effect on or near the transaction date.

DERIVATIONS AND COMMENTS

1. All Market Values are based on:
   a. Data from recently completed transactions.
   b. Data from pending transactions.
   c. Firm bids to buy or borrow, and firm offers to sell or lend.
   d. Prices purchasers or rates borrowers have expressed a willingness to pay, but for which Nuexco is not aware of firm bids to buy or borrow, and prices sellers or rates lenders have expressed a willingness to offer, but for which Nuexco is not aware of firm offers to sell or lend.
2. Prices associated with deliveries under old or renegotiated contracts or other than arm's-length transactions are not considered in the determination of these Market Values.
3. In the determination of the Conversion Value, Nuexco does not consider transportation charges other than those customarily provided by primary suppliers of conversion services.
4. The prices of conversion services or SWUs delivered under long-term contracts with primary suppliers are not considered in the determination of either the Conversion Value or SWU Value.
5. For the DOE SWU Values, Nuexco converts SWU prices at varying tails and product assays to equivalent SWU prices at a tails assay of 0.30 weight-percent U_{235} and a product assay of 3.0 weight-percent U_{235}, assuming feed costs corresponding to the Nuexco Exchange and Conversion Values determined as of the same date.
6. In calculating the Transaction Value, Nuexco does not account for the price of uranium delivered in connection with contracts which call for "market price" mechanisms. This exclusion applies particularly to contracts in which delivery prices are expressed as a function of future Exchange Values or any other indeterminant variable. Also excluded from the calculation are any other transactions in which the delivery price is defined in such a way that it cannot currently be determined.

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CURRENT MARKET DATA

EXCHANGE VALUE EXPRESSED IN SELECTED PRODUCER & CONSUMER CURRENCIES[1]

Country (currency)	per lb. U_3O_8 in Concentrates			per kg. U in Concentrates		
	This Month (Feb. 28, 1985)	Last Month (Jan. 31, 1985)	12 Months Ago (Feb. 29, 1984)	This Month (Feb. 28, 1985)	Last Month (Jan. 31, 1985)	12 Months Ago (Feb. 29, 1984)
Australia (dollar)	20.76	18.38	18.54	53.97	47.78	48.20
Belgium (comm. franc)	1,001	949.37	933	2,602	2,468	2,426
Canada (dollar)	20.73	19.91	21.89	53.89	51.77	56.91
Finland (markka)	103.38	99.40	98.65	268.76	258.43	256.46
France (franc)	152.39	145.07	140.00	396.19	377.14	363.97
FRG (mark)	49.85	47.53	45.50	129.60	123.56	118.29
Italy (lira)	30,902	29,240	28,262	80,339	76,017	73,476
Japan (yen)	3,881	3,817	4,084	10,090	9,923	10,618
Netherlands (guilder)	56.24	53.74	51.33	146.22	139.72	133.46
South Africa (rand)	30.00	29.56	21.02	77.99	76.84	54.65
Spain (peseta)	2,745	2,628	2,611	7,137	6,832	6,788
Sweden (krona)	140.71	135.62	135.98	365.82	352.59	353.50
Switzerland (franc)	42.37	40.11	37.82	110.16	104.27	98.33
UK (pound)	13.76	13.27	11.71	35.78	34.50	30.44
US (dollar)	15.00	15.00	17.50	39.00	39.00	45.50

TRANSACTION VALUE EXPRESSED IN SELECTED PRODUCER & CONSUMER CURRENCIES[1]

Country (currency)	per lb. U_3O_8 in Concentrates			per kg. U in Concentrates		
	This Month (Feb. 28, 1985)	Last Month (Jan. 31, 1985)	12 Months Ago (Feb. 29, 1984)	This Month (Feb. 28, 1985)	Last Month (Jan. 31, 1985)	12 Months Ago (Feb. 29, 1984)
Australia (dollar)	21.73	19.85	23.84	56.49	51.60	61.97
Belgium (comm. franc)	1,047	1,025	1,200	2,723	2,666	3,120
Canada (dollar)	21.70	21.51	28.15	56.41	55.91	73.17
Finland (markka)	108.20	107.36	126.83	281.30	279.10	329.73
France (franc)	159.50	156.67	180.00	414.68	407.31	467.96
FRG (mark)	52.18	51.33	58.50	135.65	133.45	152.09
Italy (lira)	32,344	31,579	36,337	84,088	82,098	94,469
Japan (yen)	4,062	4,122	5,251	10,561	10,717	13,651
Netherlands (guilder)	58.87	58.04	66.00	153.04	150.90	171.59
South Africa (rand)	31.40	31.92	27.03	81.63	82.99	70.26
Spain (peseta)	2,873	2,838	3,357	7,470	7,378	8,728
Sweden (krona)	147.28	146.47	174.83	382.89	380.80	454.51
Switzerland (franc)	44.35	43.32	48.63	115.30	112.61	126.42
UK (pound)	14.40	14.33	15.06	37.45	37.25	39.14
US (dollar)	15.70	16.20	22.50	40.82	42.12	58.50

[1]Calculated using currency exchange rates published in the *Wall Street Journal* on February 28, 1985.

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CURRENT MARKET DATA

CONVERSION VALUE EXPRESSED IN SELECTED PRODUCER & CONSUMER CURRENCIES[1]

Country (currency)	per lb. U as UF_6			per kg. U as UF_6		
	This Month (Feb. 28, 1985)	Last Month (Jan. 31, 1985)	12 Months Ago (Feb. 29, 1984)	This Month (Feb. 28, 1985)	Last Month (Jan. 31, 1985)	12 Months Ago (Feb. 29, 1984)
Australia (dollar)	1.38	1.23	0.32	3.05	2.70	0.70
Belgium (comm. franc)	66.71	63.29	16.00	147.07	139.53	35.27
Canada (dollar)	1.38	1.33	0.38	3.05	2.93	0.83
Finland (markka)	6.89	6.63	1.69	15.19	14.61	3.73
France (franc)	10.16	9.67	2.40	22.40	21.32	5.29
FRG (mark)	3.32	3.17	0.78	7.33	6.99	1.72
Italy (lira)	2,060	1,949	484.50	4,542	4,298	1,068
Japan (yen)	258.73	254.45	70.01	570.41	560.97	154.35
Netherlands (guilder)	3.75	3.58	0.88	8.27	7.90	1.94
South Africa (rand)	2.00	1.97	0.36	4.41	4.34	0.79
Spain (peseta)	183.02	175.19	44.76	403.48	386.23	98.69
Sweden (krona)	9.38	9.04	2.33	20.68	19.93	5.14
Switzerland (franc)	2.82	2.67	0.65	6.23	5.89	1.43
UK (pound)	0.92	0.88	0.20	2.02	1.95	0.44
US (dollar)	1.00	1.00	0.30	2.20	2.20	0.66

SWU VALUES EXPRESSED IN SELECTED PRODUCER & CONSUMER CURRENCIES[1]

Country (currency)	DOE SWU FY85 (February 28, 1985)	Non-DOE SWU 1985 delivery (February 28, 1985)	Non-DOE SWU 1986 delivery (February 28, 1985)
Australia (dollar)	141.18	110.73	121.80
Belgium (comm. franc)	6,805	5,337	5,871
Canada (dollar)	140.96	110.56	121.61
Finland (markka)	702.96	551.34	606.48
France (franc)	1,036	812.76	894.04
FRG (mark)	338.98	265.87	292.46
Italy (lira)	210,136	164,813	181,294
Japan (yen)	26,391	20,699	22,768
Netherlands (guilder)	382.45	299.96	329.96
South Africa (rand)	204.00	160.00	176.00
Spain (peseta)	18,668	14,641	16,105
Sweden (krona)	956.85	750.47	825.52
Switzerland (franc)	288.14	225.99	248.59
UK (pound)	93.58	73.39	80.73
US (dollar)	102.00	80.00	88.00

[1]Calculated using currency exchange rates published in the *Wall Street Journal* on February 28, 1985.

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CURRENT MARKET DATA

RECENT TRANSACTIONS[1]

Uranium Sales

Nuexco Transaction Number	Delivery Period	Approximate Quantity (thousands of pounds, U_3O_8 equivalent)	Approximate Price as Percent of Current E.V.	Seller	Buyer	Remarks
3335	1985	101-300	117	Canadian Producer	R[2]	UF_6.
3334	1985	101-300	R[2]	Trader	Trader	UF_6.
3333	1985	less than 50	96	US Producer	US Utility	
3331	1985	50-100	100	European Utility	R[2]	UF_6.
3330A	R[2]	less than 50	101	European Utility	R[2]	Contained in LEU.
3322A	1985	less than 50	105	Trader	European Utility	Contained in LEU.
3321	1985	50-100	less than 97	R[2]	European Utility	UF_6.
3320	1985	301-600	100	Trader	European Utility	UF_6.
3319	1985	101-300	105	US Producer	Far East Utility	
3318	1988-1992	601-1,000	see remarks	US Producer	US Utility	Occurred in late 1984. Price escalated from January 1985.
3306	1985	101-300	100	US Producer	Far East Utility	

[1]Transactions listed are not limited to those in which Nuexco was involved, but also include others of which Nuexco is aware.
[2]The notation *R* means that Nuexco either does not know, or that Nuexco has restricted that information to protect client confidentiality.

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RECENT TRANSACTIONS[1] *(continued)*

Secondary Market Conversion Services

Nuexco Transaction Number	Delivery Period	Approximate Quantity (thousands of pounds, U equivalent)	Approximate Price as Percent of Current C.V.	Seller	Buyer	Remarks
3340	1985	50-100	93	US Utility	US Utility	
3332	1985	101-300	100	US Utility	Trader	

Enrichment Services
Secondary Market Sales

Nuexco Transaction Number	Delivery Period	Approximate Quantity[2] (thousands of SWUs)	Approximate Price[3] as Percent of Current SWU Value[4]	Seller Group	Buyer Group	SWU Origin	Remarks
3339	1985	less than 50	110	US Utility	US Fabricator	DOE	Tails assay 0.2%.
3330B	R[5]	less than 50	R[5]	European Utility	R[5]	R[5]	Contained in LEU.
3322B	1985	less than 50	113	Trader	European Utility	DOE	Contained in LEU.

[1]Transactions listed are not limited to those in which Nuexco was involved, but also include others of which Nuexco is aware.
[2]If tails assay is unknown or unspecified, Nuexco's calculation of SWU quantity assumes 0.30 w/o tails assay.
[3]Price is not normalized to 0.30% tails assay.
[4]Refers to SWU Value that corresponds to SWUs included in transaction. When prices and SWU values are expressed as discounts (e.g., X dollars less than DOE's USEC base price at time of delivery), the percentage refers to the ratio of the *discounts*, not the ratio of the prices.
[5]The notation *R* means that Nuexco does not know, or that Nuexco has restricted that information to protect client confidentiality.

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CURRENT MARKET DATA

URANIUM SUPPLY
(February 28, 1985)

Nuexco Project Number	Delivery Period[1] (Thousands of Pounds U_3O_8) Spot or Near-term[2]	Intermediate or Long-term	Remarks
Available for Sale:			
ACTIVE			
1575	500	500 per year	
1860	400	1,500 per year	
2038	1,000	1,000 per year	UF_6
2134	220	220 per year	1986-87
2288A	40	—	
2288B	295	—	UF_6
2389	200	—	
2392	35	—	UF_6
2499	15	—	
2538*	25	—	
2565	400	—	
2584	300	—	
2603	10	—	
2633*	1,800	—	
2650*	40	—	
2675*	35	—	UF_6
2263	—	500 per year	1985-90
2625*	—	250 per year	1987-89
2657	—	980	1986; UF_6
TOTAL:	5,315		
INACTIVE			
2191	125	—	UF_6
2275	150	—	
2335	275	—	
2336	250	250 per year	1985-94
2495	130	—	UF_6
2553	300	—	
2654*	-250	250 per year	UF_6
0564	—	1,000 per year	1985-90
2271	—	500 per year	1985-88
2297	—	200 per year	1986-89
2368	—	250 per year	1987-90
2514	—	1,000 per year	
2574	—	500	UF_6
2670*	—	525	1987
TOTAL:	1,480		

*New or revised since last month.
[1]Measured from the date of this Report.
[2]For delivery within one year. This category excludes material deliverable within one year under other than spot or near-term contracts.
Projects removed since last month: 2236, 2326, 2509, 2516, 2538A, 2569, 2664.

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CURRENT MARKET DATA

URANIUM DEMAND
(February 28, 1985)

Nuexco Project Number	Delivery Period[1] (Thousands of Pounds U_3O_8) Spot or Near-term[2]	Intermediate or Long-term	Remarks
Inquiries to Purchase:			
ACTIVE			
2419*	65	—	UF_6
2548	300	—	
2590*	225	—	U_3O_8 or UF_6
2636*	100	—	
2661*	260	260 per year	1986-87
2674*	1,000	—	
2676*	160	—	UF_6
2690	160	—	
2217	—	1,000 per year	1989-95
2442	—	4,000	1986-95
2507	—	600	1987-89
2540	—	400 per year	1989-94
2659*	—	320 per year	1988-91
TOTAL:	2,270		
INACTIVE			
2329	500	—	1985
2576	20	—	UF_6
1999	—	50 per year	1986-90
2244	—	350 per year	1987 on
2414	—	365	1987-88
2457B	—	650	1987
2586	—	300	1987
2643	—	150 per year	1987 on
TOTAL:	520		

*New or revised since last month.
[1]Measured from the date of this Report.
[2]For delivery within one year. This category excludes material deliverable within one year under other than spot or near-term contracts.
Projects removed since last month: 2457A, 2638.

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CURRENT MARKET DATA

LOAN SUPPLY AND DEMAND
(February 28, 1985)

Nuexco Project Number	Delivery Period[1] (Thousands of Pounds U_3O_8) Within 1 Year	Beyond 1 Year	Remarks
Available for Loan:			
INACTIVE			
1938	2,000	—	UF_6
2128	700	—	
2139	2,000	—	
2469A	800	—	
2483	550	—	
2667*	800	—	
TOTAL:	6,850		

No inquiries to borrow this month.

CONVERSION SUPPLY AND DEMAND
(February 28, 1985)

Nuexco Project Number	Delivery Period[1] (Thousands of Pounds U as UF_6) Within 3 Years	Beyond 3 Years	Remarks
Available for Sale:			
ACTIVE			
2051*	300	—	
TOTAL:	300		
INACTIVE			
2438	500	250 per year	1986-87
2511	600	700	1986-90
TOTAL:	1,100		
Inquiries to Purchase:			
ACTIVE			
2419A*	55	—	
2602*	200	—	
TOTAL:	255		
INACTIVE			
2529*	225	—	
2587	285	—	
2644	—	475	1987 on
TOTAL:	510		

*New or revised since last month.
[1]Measured from the date of this Report.
Projects removed since last month: 2638A.

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SWU SUPPLY
(February 28, 1985)

Nuexco Project Number	Delivery Period[1] (Thousands of SWUs) Spot or Near-term[2]	Intermediate or Long-term	Remarks
Available for Sale:			
ACTIVE			
2100	150	100 per year	
2583	50	—	
2624	100	—	
2631	150	—	
2633B	330	—	
2664*	150	—	
2285	—	300	
2359*	—	300	
2513	—	25	1986
2517	—	150	1986-89
2571	—	55	1987
2657A	—	175	1986
TOTAL:	930		
INACTIVE			
2164	25	—	
2689*	40	—	
2378	—	120	1988
2510	—	50	
2652*	—	25	1986
TOTAL:	65		

*New or revised since last month.
[1]Measured from the date of this Report.
[2]For delivery within one year. This category excludes SWUs deliverable within one year under other than spot or near-term contracts.
Projects removed since last month: 2531, 2589, 2632.

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CURRENT MARKET DATA

SWU DEMAND
(February 28, 1985)

Nuexco Project Number	Delivery Period[1] (Thousands of SWUs) Spot or Near-term[2]	Intermediate or Long-term	Remarks
Inquiries to Purchase:			
ACTIVE			
2655	10	—	
2665	50	—	
2669*	50	—	
2519	—	30 per year	1987 on
2578	—	100	1986
2653	—	100	1986-90
2658	—	5	1986
2693*	—	100	1989-90
TOTAL:	110		
INACTIVE			
2543	25	25	1986
2585*	90	—	1986
2500	—	500	1987-90
2512	—	15 per year	1987 on
2595	—	50	1986
TOTAL:	115		

*New or revised since last month.
[1]Measured from the date of this Report.
[2]For delivery within one year. This category excludes SWUs deliverable within one year under other than spot or near-term contracts.
Projects removed since last month: 2459, 2480, 2640, 2689A.

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ASSESSMENT OF TODAY'S URANIUM MARKET: STARTING TO COME OF AGE

by

James E. Vaughan
President, Nuexco

The following is a slightly edited version of a speech presented by Nuexco President Jim Vaughan to the Atomic Industrial Forum's Fuel Cycle Conference in New Orleans, Louisiana, on March 12, 1985.

Market Overview

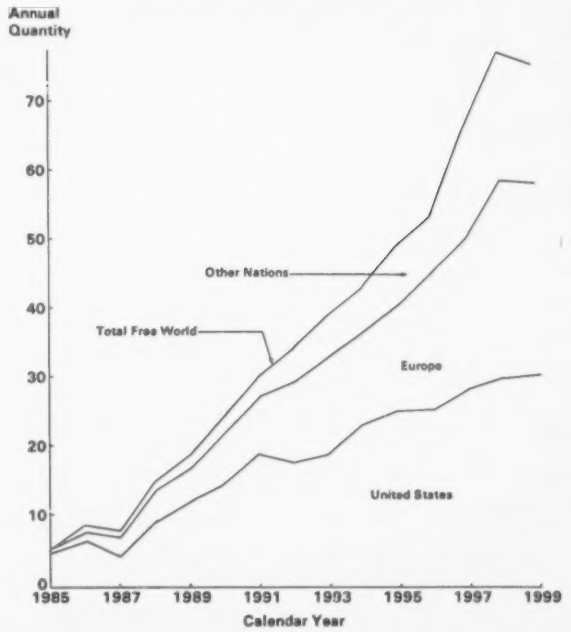
At first glance, the two big news items in the uranium market during the past year have been the USDOE's new contract, the Utility Services Enrichment Contract (USEC), and the definition of the Cigar Lake discovery in Saskatchewan. The USEC has been important news because it is a requirements-type contract which is replacing a fixed-commitment contract. Its near-term effect has been to weaken the uranium market because it has delayed the consumption of natural uranium (consumption for this purpose being defined as the introduction of uranium into the enrichment/fabrication "pipeline"). Eighteen months ago, Nuexco was forecasting substantial unfilled requirements beginning in the 1985-86 period. Now it appears that real unfulfilled requirements will not exceed ten million pounds U_3O_8 per year until 1988 (Figure 1).

The Cigar Lake deposit was the other big new items in 1984, although its only effect to date has been psychological. But markets react to psychological factors, and the announcement of such a huge deposit, estimated at 300 million pounds U_3O_8 at greater than ten-percent grade, has added to the already strong feeling that there is an ample supply of uranium in the world for many years to come. Moreover, the history of exploration suggests that Cigar Lake is probably not just one of a kind.

Later in this paper, other more subtle factors in the market will be discussed, in addition to these obvious points. In particular, we will examine the development of the spot market as it relates to the total market for uranium.

The Nuexco Exchange Value during 1984 dropped from US$20.50 in January to $15.25 in December, and it has dropped to $15.00 in 1985. In addition to Cigar Lake and the jolt of displaced consumption brought on by the USEC, the market continues to react to plant cancella-

FIGURE 1
FREE WORLD UNFILLED REQUIREMENTS
(Millions of Pounds U308 per Year)



tions that have released or threaten to release large quantities of uranium into the spot and near-term markets. There have also been sales of marginal uranium production that are relatively price-insensitive. These factors were further exacerbated by the following influences:

1. The strong US dollar has had an effect on the market because uranium prices are normally quoted in US dollars in international transactions. The strong dollar in some cases has enabled non-US sellers to become more aggressive in pricing, since in recent months the US dollar has in general been rising faster than uranium prices have been falling.

2. World[1] uranium production has exceeded consumption by well over 25 million pounds U_3O_8 per year for the last five years. Production is expected to exceed consumption by nearly 20 million pounds in 1985.

3. In theory, world commercial inventories as of the end of 1984 are sufficient to meet all requirements through 1989 without any further production. That is, a five-year forward inventory now exists in the commercial uranium market. For comparison, world stocks of copper at present amount to only about three months' forward supply. The inventory situation is an important reason why movements in uranium prices, even spot prices, are relatively

[1] World = WOCA (World Outside Centrally-planned economic Areas).

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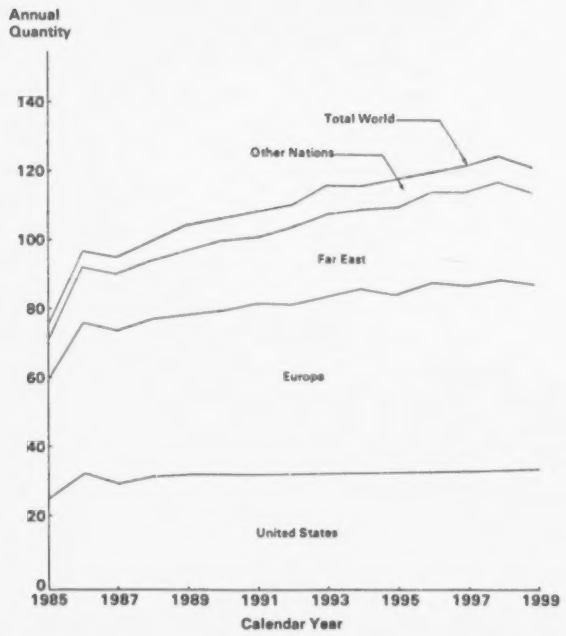
slow. Such price motion is dampened by the enormous inertia of the world stockpile. The outlook predicts a continued weak spot market for the next two or three years as real unfilled near-term requirements remain low, and secondary market activity is expected to remain high. The "secondary market" refers to new sales of uranium that previously has been sold; for example, the case of a utility selling off some of its inventory.

FIGURE 2
WORLD URANIUM CONSUMPTION
(Millions of Pounds U308 Equivalent)

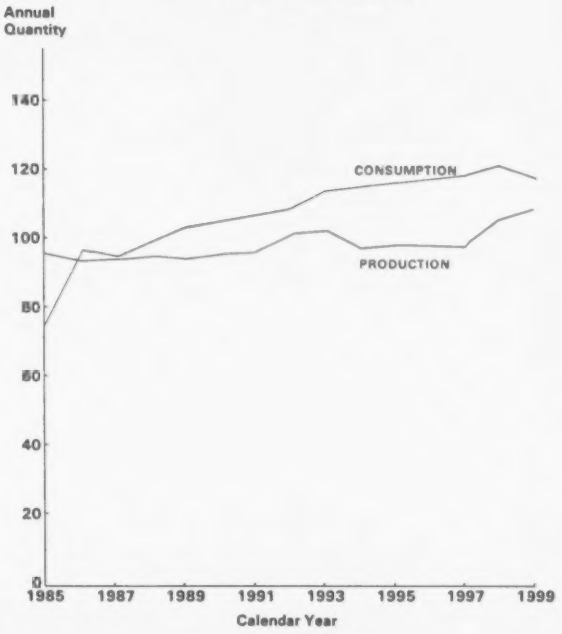


We do expect, however, that 1986 will bring the long-awaited crossover between consumption (Figure 2) and production (Figure 3). Nuexco forecasts 1986 world consumption at 97 million pounds U_3O_8, while production is expected to fall to 94 million pounds U_3O_8. Thus, beginning in 1986, we can expect to see the world inventory position gradually begin to decrease (Figure 4).

A Look at Pricing Concepts

Pricing trends are an aspect of the market that requires some examination of market data. Conventional belief has held that only a small fraction of uranium is traded at spot market prices; roughly five to ten percent is the amount often quoted. It is interesting to take a closer look at the market and the various types of transactions to see

FIGURE 3
WORLD PRODUCTION COMPARED TO CONSUMPTION
(Millions of Pounds U308)



if this conventional idea is valid, and to forecast the direction that pricing concepts may be taking.

We arbitrarily decided to segregate the total 1984 uranium market deliveries into the following three pricing categories. The data includes sales of natural uranium concentrates (U_3O_8) and UF_6, as well as the natural uranium component in sales of enriched uranium:

1. Spot-related price;
2. Negotiated price;
3. Fixed price.

Contracts having spot-related prices include both simple spot contracts as well as longer-term contracts with pricing provisions directly related to the spot market (for example, by reference to the Nuexco Exchange Value). The negotiated price category includes long-term contracts containing provisions for the parties to meet periodically following contract signature to negotiate the price of a delivery or series of deliveries (for example, the great majority of deliveries to Japanese buyers). The fixed price category includes formula prices set forth in long-term contracts without any substantial reference in the formula to spot market indicators or negotiations. Cost-plus contracts and captive production are also included in this category.

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FIGURE 4
WORLD AND UNITED STATES INVENTORY POSITION
(Millions of Pounds U308 Equivalent)

In order to classify all 1984 deliveries into only three categories, some arbitrary decisions were necessary. Some contracts are easy to classify, such as simple spot sales or simple fixed long-term prices transactions, with or without formula escalation. Others are hybrids which include characteristics of more than one category. For example, some spot market price-related contracts contain floor price provisions. It was decided that in those cases where the floor price was substantially higher than the 1984 spot market price, the contract would be classified as fixed. If the floor price were of the order of the spot price level or lower, the contract would be classified as spot.

Table 1 contains a breakdown of the 1984 market resulting from this analysis. A total of 113 million pounds U_3O_8 equivalent was delivered in 1984 under 235 purchase-and-sale agreements. Of this amount, some 24 million pounds U_3O_8 (80 contracts) were delivered at spot market prices. A total of 26.5 million pounds U_3O_8 (33 contracts) was delivered under prices negotiated between the parties after the delivery contract was signed. The balance, 62 million pounds U_3O_8 (122 contracts), was delivered under formula prices, floor prices, or other arrangements not tied to a spot market indicator or annual negotiations. The percentages are as follows:

spot	21.1 percent
negotiated	23.5 percent
fixed	55.4 percent

The 1984 deliveries are further described in Table 2 by both production region and type of buyer. Total world estimated production in 1984 amounted to 99 million pounds U_3O_8. In a perfect market involving only producers, consumers and no intermediaries, and no secondary market or producer inventories, production would approximate deliveries. However, the uranium market is not perfect in that respect. Substantial secondary market activity has occurred in recent years, and producers add and subtract from inventory, including the practice of buying in the secondary market for redelivery. Thus, the additional deliveries in the latter group bring the 1984 total to 112.6 million pounds U_3O_8 equivalent, although most deliveries are in fact from producers to users.

The 24 million pounds traded at spot market prices in 1984 can be divided further as follows:

Transaction Type	**Million pounds U_3O_8**
1. Spot transactions	15.5
2. Longer term contracts having prices directly related to spot market indicators	8.3
TOTAL spot-related deliveries	23.8

A variation of the data in Table 1 is shown in Table 3. The objective of this variation is to determine the possible amount of material delivered at spot prices if the 1984 spot price level had been roughly double. This would neutralize the effect of most of the floor prices that placed many spot-related contracts in the "Fixed" category in Table 1. Under these different conditions, as indicated in Table 3, about 36 million pounds U_3O_8 would have been delivered at the spot price, an increase of 12 million pounds (50 percent). This 12 million pounds is the quantity of uranium now being delivered at fixed (floor) prices, material that would have been sold at spot prices had the spot market been considerably stronger.

In an effort to locate a trend, we performed a similar analysis to break down 1983 deliveries by pricing category. As indicated in Table 4, about 19.9 million pounds U_3O_8 equivalent (83 contracts) were delivered in 1983 at spot prices, or almost 20 percent of the total. With the results of this two-year analysis, plus the conventional belief that at one time only five to ten percent of uranium was traded at spot prices, one may infer a tendency toward the delivery of an increasing percentage of uranium at spot market prices. Table 5 contains a breakdown of 1983 data similar to Table 2.

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ANALYSIS & COMMENTARY

Table 1

1984 URANIUM DELIVERIES BY PRICING CATEGORY
(Millions of pounds U_3O_8 equivalent)
(number of contracts shown in parentheses)

Buyer Group	Fixed Price		Negotiated Price		Spot Price		Total Delivery to Buyer Group	
European User	22.7	(33)	8.4	(12)	4.7	(16)	35.8	(61)
US User	17.5	(43)	2.1	(2)	13.9	(43)	33.5	(88)
Other User	16.9	(40)	14.0	(18)	0.8	(3)	31.7	(61)
Non-User	5.2	(6)	2.0	(1)	4.4	(18)	11.6	(25)
TOTAL	62.3	(122)	26.5	(33)	23.8	(80)	112.6	(235)

Table 2

1984 URANIUM SELLERS' PRODUCTION AND DELIVERIES
(Millions of pounds U_3O_8 equivalent)

Region	1984 Production	Deliveries to Users	Deliveries to non-Users	Total Deliveries	Producer Inventory Additions[1]
Australia	10.3	8.6	0.0	8.6	1.7
Canada	27.9	25.3	2.7	28.0	(0.1)
France and Central Africa	19.0	14.9	0.5	15.4	3.6
Southern Africa	24.0	16.5	6.8	23.3	0.7
USA	15.6	24.8	1.0	25.8	(10.2)
Other Producers	2.2	1.7	0.2	1.9	0.3
Non-Producers	—	9.2	0.4	9.6	—
TOTAL	99.0	101.0	11.6	112.6	(4.0)

[1]Includes actual inventory changes and redeliveries within the year.

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A tendency toward increased use of the spot market, either directly or as a pricing method in long-term contracts, probably reflects the following factors:

1. A strong secondary market now exists.
2. The uranium market is coming of age. Buyers and sellers are becoming increasingly sophisticated and market information is more readily available to all participants. This maturity enables both buyers and sellers to have more confidence in the spot market.
3. There is strong pressure on some buyers, especially US utilities, to buy at spot-related prices, even under long-term contracts.

An Analogy to Another Commodity

Increasing market maturity, in the case of other commodities, has led to decreased dominance of producer (contract) prices. The aluminum market is a recent example of such a change. Through the early 1970s, the aluminum producers had fairly tight control over market prices, but the situation changed rapidly in the mid-1970s, and in late 1978, the London Metal Exchange (LME) finally introduced its first aluminum contract, based on a quoted LME spot price. Reasons for the change included:

1. The 1973-74 energy shock substantially boosted the smelting cost of some operators, especially in the USA.
2. New producers with lower production costs, chiefly lower energy costs, were then able to enter the market, causing dislocation of traditional supply channels.
3. A strong secondary market also developed in the 1970s. By 1984, an estimated 31 percent of Western World aluminum output was of secondary (recycled) origin.
4. The LME contract introduced in 1978 encouraged spot trading.

While we cannot carry the analogy too far for uranium because of the substantial differences between the two markets, there are a few indications which suggest a similar trend toward maturity in the uranium market:

1. A geopolitical shift in the uranium market is occurring, and new lower-cost uranium producers have become important, displacing some traditional supply channels.
2. A strong secondary uranium market has developed and shows signs of remaining strong.
3. At present there is no equivalent in uranium to the LME contract, but the universality of the "fuel adjustment clause" in the USA has been a strong independent driving force prompting US utilities to seek contracts with spot-market-related pricing provisions. Under the fuel adjustment clause, utilities can pass fuel costs directly through to customers, provided that the costs are reasonably and prudently incurred. Regulatory agencies generally have interpreted the "reasonable and prudent" provision to mean purchasing at about the level of spot market price in effect at the time of delivery. Thus, regulatory agencies generally allow purchases at spot market or less, but any increment above spot market usually must be absorbed by the utility.

Table 3

1984 URANIUM DELIVERIES BY PRICING CATEGORY
WHERE "SPOT" INCLUDES DELIVERIES CURRENTLY "FIXED"
BECAUSE OF HIGH FLOOR PRICES
(Millions of pounds U_3O_8 equivalent)
(number of contracts shown in parentheses)

Buyer Group	Fixed Price		Negotiated Price		Spot Price		Total Delivery to Buyer Group	
European User	18.3	(22)	8.4	(12)	9.1	(27)	35.8	(61)
US User	15.9	(38)	2.1	(2)	15.5	(48)	33.5	(88)
Other User	10.8	(32)	14.0	(18)	6.9	(11)	31.7	(61)
Non-User	5.2	(6)	2.0	(1)	4.4	(18)	11.6	(25)
TOTAL	50.2	(98)	26.5	(33)	35.9	(104)	112.6	(235)

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Conclusion

It remains to be seen if the present tendency toward increased use of the spot market will continue, but the forces appear to be working in that direction. Other commodities have endured similar transitions, and in a typical mature commodity market there is a very close relationship between the contract market and the spot market; indeed, they are often the same. For example, nearly all of the free world's copper production is sold at the LME (or another similar exchange) price at the time of delivery, whether it is sold under long-term or spot contracts.

In conclusion, it appears that the spot market has become an integral factor in the uranium market. Lessons from other commodities as well as driving forces present in the market today suggest that this tendency will continue.

Table 4

1983 URANIUM DELIVERIES BY PRICING CATEGORY
(Millions of pounds U_3O_8 equivalent)
(number of contracts shown in parentheses)

Buyer Group	Fixed Price		Negotiated Price		Spot Price		Total Delivery to Buyer Group	
European User	20.7	(32)	9.1	(13)	5.2	(13)	35.0	(58)
US User	19.7	(51)	1.5	(1)	7.0	(36)	28.2	(88)
Other User	16.5	(37)	13.8	(18)	0.6	(3)	30.7	(64)
Non-User	4.7	(6)	2.0	(1)	7.1	(31)	13.8	(38)
TOTAL	61.4	(132)	26.4	(33)	19.9	(83)	107.7	(248)

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Table 5

1983 URANIUM SELLERS' PRODUCTION AND DELIVERIES
(Millions of pounds U_3O_8 equivalent)

Region	1983 Production	Deliveries to Users	Deliveries to non-Users	Total Deliveries	Producer Inventory Additions[1]
Australia	8.4	9.6	0.0	9.6	(1.2)
Canada	18.9	20.1	1.4	21.5	(2.6)
France and Central Africa	20.0	14.5	0.3	14.8	5.2
Southern Africa	25.5	16.5	7.2	23.7	1.8
USA	21.2	25.3	1.8	27.1	(5.9)
Other Producers	1.7	1.0	0.5	1.5	0.2
Non-Producers	—	6.9	2.6	9.5	—
TOTAL	95.7	93.9	13.8	107.7	(2.5)

[1]Includes actual inventory changes and redeliveries within the year.

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RECENT DEVELOPMENTS

CANADA

The partners of the Waterbury Lake Joint Venture have announced increased reserve estimates for the Cigar Lake uranium deposit. The mine is located in northern Saskatchewan, approximately 115 kilometers north of the Key Lake deposit. Estimates of the main mineralized pod indicate reserves of approximately 285 million pounds U_3O_8 (110,000 metric tons of uranium) at an average grade of 14 percent U_3O_8 (12 percent uranium). Additional inferred reserves at its western extension amount to approximately 100 million pounds U_3O_8 at an average grade of 4.7 percent U_3O_8. These estimates refer to in-place reserves; recoverable reserves are subject to the mining methods used.

Table 6

OWNERSHIP OF CIGAR LAKE

Company	Percent Ownership
SMDC[1]	50.75
Cogema Canada Ltd.	32.625
Idemitsu Uranium Exploration Canada Ltd.	12.875
Corona Grande[2]	3.75

[1]SMDC = Saskatchewan Mining Development Corporation.
[2]A wholly-owned subsidiary of Cogema Canada Limited.

Table 6 lists the ownership of the Cigar Lake venture. Cogema Canada, which has operated the Waterbury Lake Joint Venture since 1980, made the initial discovery in 1981. During 1983, 65 holes drilled on the primary structure were the basis of reserve estimates; new estimates based on drilling carried out through the end of 1984 surpass earlier expectations of size and ore grade.

Exploration work carried out to date includes a geostatistical estimation of the reserves in the main mineralization, which occurs as a flat lens, 1 to 20 meters thick, extending over a length of 650 meters. Average depth is 430 meters, and the main mineral association is uraninite/nickel-cobalt arsenides. In addition to the drilling program, various pre-development studies took place in 1984, focusing on geotechnical, metallurgical, and environmental aspects of the project.

Exploration drilling and development studies will continue in 1985. The Waterbury Lake Joint Venture partners plan to establish a joint operating corporation, the Cigar Lake Mining Corporation (CLMC), comprised of mining engineers, geotechnicians and environmental specialists assigned to the project from SMDC, Cogema Canada, and Idemitsu. CLMC plans to study the feasibility of the project for the next three to five years. Commercial development of the deposit probably will commence early in the 1990s.

UNITED STATES

House of Representatives members have introduced legislation that would restrict nuclear trade, including purchases of uranium, with South Africa. The House bills (HR 1133, 1135 and 1098) would restrict the exchange of nuclear technology with South Africa as well as the US import of uranium from that country. Two of the bills, introduced by Rep. Charles Rangel (D-N.Y.), would prohibit export of nuclear material, equipment, and technology, and the US Tariff Schedules would be amended to prohibit the importation of coal and uranium from South Africa or Namibia. A third bill, introduced by Del. Walter Fauntroy (D-D.C.), which would prohibit the importation of South African coal and uranium, also would prohibit exports to South Africa of nuclear goods or technology. In addition, the bill would prohibit new investments in South African businesses and the importation of Krugerrands.

Various arguments against nuclear trade with South Africa have been expressed in the Congressional Record and in letters from Congressmen to former DOE Secretary Donald Hodel. These arguments include the following:

- The objective of seeking new signatories to the Nonproliferation Treaty (NPT) might be jeopardized.
- Other African nations could drop their support for the NPT in response to such trade approvals. The loss of a nation or bloc of nations could seriously undermine the future of the treaty in addition to the success of the Nonproliferation Treaty Review Conference in September.
- US trade policy should favor signatories of the NPT to avoid the impression that the USA is indifferent to the NPT status of other nations.

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The issue of safeguarded material remains a central conflict between South Africa and the NPT, although South Africa has agreed to place its Valindaba enrichment plant under safeguards. No agreement has been reached regarding the pilot enrichment facility at Pelindaba. In February 1984, DOE suspended the Electricity Supply Commission of South Africa's (Escom) two enrichment contracts because of a lingering safeguards dispute. Escom had been unable to export enriched product from the USA because of certain provisions in the Nuclear Nonproliferation Act of 1978 which pertain to non-weapons states. The US State Department requested the suspension following an announcement by South Africa's Atomic Energy Corporation that it would require safeguards as a condition of exporting nuclear material or technology.

Hodel responded to the arguments, stating that progress has been made as a result of US dialogue with South Africa, and that the country has resumed discussions with the International Atomic Energy Agency (IAEA) concerning safeguards to the Valindaba enrichment facility. Bills similar to the ones introduced in Congress in February have appeared before, but have been largely unsuccessful. It is likely, considering the Reagan administration's stance of "constructive engagement" with South Africa, that the bills will fail to gain the necessary Congressional support.

* * *

Long Island Lighting Company's (LILCO) Shoreham nuclear power plant received NRC approval to begin low-power operation. The approval follows numerous hearings and discussions regarding the feasibility of the 820-MWe BWR. A low-power license has been pending since a special board to consider the NRC's procedure for licensing the plant was set up in early 1984. The plant's major opponents, Suffolk County and the State of New York, immediately requested a stay of the NRC order, filing a suit in the US Court of Appeals for the D.C. Circuit. In addition, an NRC appeal board is considering the opponents' appeal.

The plant has had a long history of problems and delays which has fueled public criticism. Heavy financial burdens remain the chief obstacle to commercial operation. In an effort to save money, LILCO withdrew as an 18-percent partner in Niagara Mohawk's Nine Mile Point Unit 2 nuclear plant in early 1984. (LILCO later reached an agreement with Niagara Mohawk to resolve the defaulted partnership.) Shortly thereafter, the utility omitted its common stock dividend and eliminated some jobs. In October 1984, an Atomic Safety and Licensing Board recommended a low-power license for Shoreham to help ease the utility's financial problems.

Furthermore, opponents of the plant contend that LILCO's emergency evacuation plan is inadequate, an issue which is under consideration in a state court. Opponents argued that low-power tests should be postponed until the court rules. LILCO's evacuation plan was approved by federal authorities but is opposed by Suffolk County; New York Governor Mario Cuomo supports the county's position. LILCO, on the other hand, filed a lawsuit against Suffolk County in June 1984, charging $4 billion in damages if the county is successful in keeping the plant from operating.

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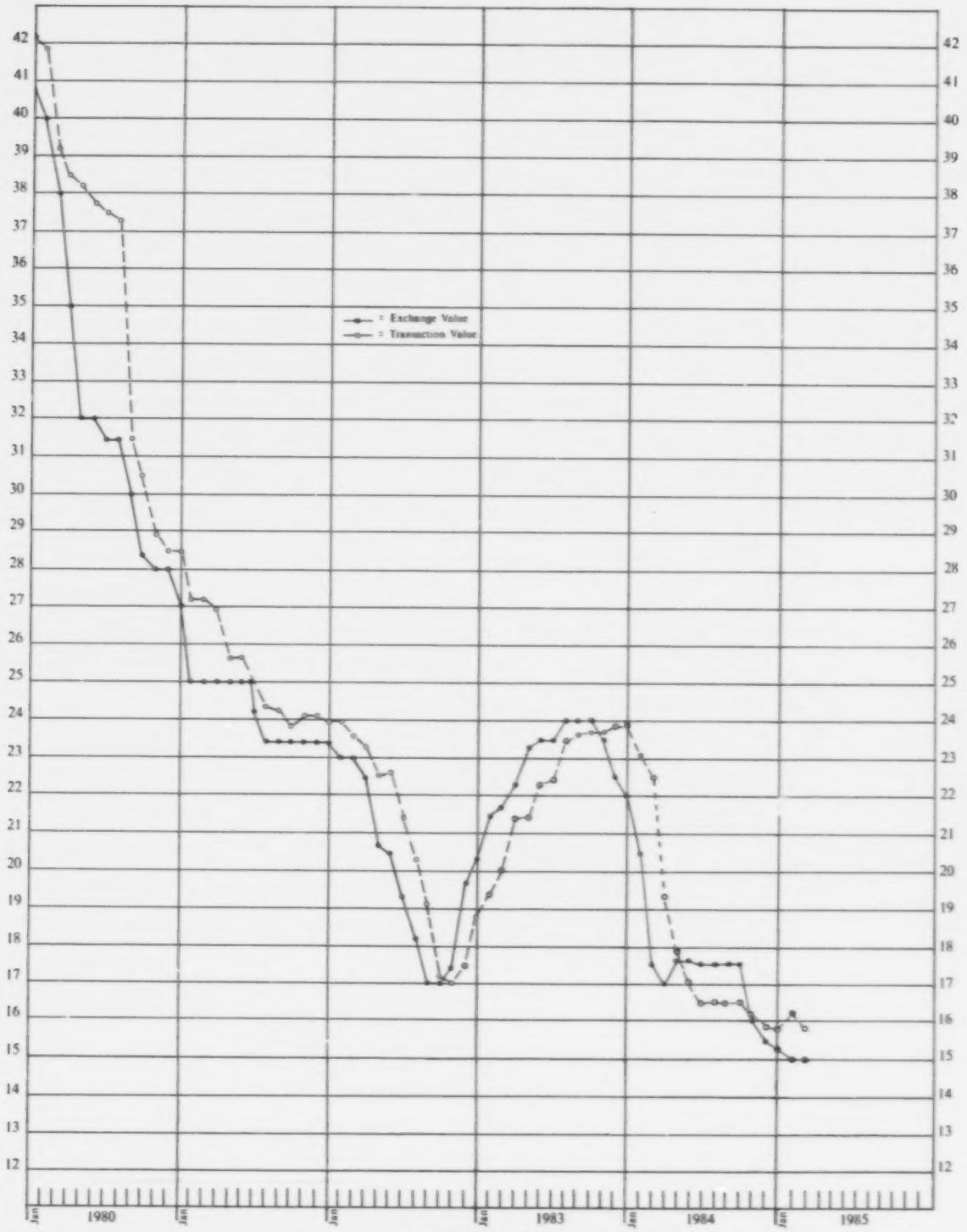
HISTORICAL MARKET DATA

EXCHANGE AND TRANSACTION VALUES SINCE JANUARY 1980

Determined as of the last day of the month indicated



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HISTORICAL EXCHANGE VALUES

Determined as of the last day of the month indicated (US Dollars/lb. U_3O_8)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1968	—	—	—	—	—	—	—	6.35	6.35	6.40	6.45	6.50
1969	—	6.35	6.10	6.10	6.25	6.25	6.20	6.20	6.15	6.15	6.15	6.20
1970	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.20	6.15	6.15	6.15	6.15
1971	6.20	6.20	6.20	6.20	6.15	6.05	6.00	5.95	5.95	5.95	5.95	5.95
1972	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95
1973	5.95	6.00	6.10	6.20	6.45	6.50	6.50	6.50	6.50	6.50	6.75	7.00
1974	7.70	7.90	8.00	9.00	9.50	10.50	11.50	12.00	12.50	14.00	14.75	15.00
1975	16.00	16.00	18.00	20.00	21.00	23.00	24.70	26.00	26.00	28.50	30.00	35.00
1976	32.50	37.00	39.25	40.00	40.00	40.00	40.00	40.40	41.00	41.00	41.50	41.00
1977	41.35	41.50	41.60	41.60	42.00	42.25	42.25	42.25	42.40	42.75	43.20	43.20
1978	42.90	43.25	43.25	43.25	43.40	43.40	43.40	43.10	43.25	43.00	43.25	43.25
1979	43.25	43.25	43.25	43.25	43.25	43.00	42.70	42.70	42.20	42.20	41.00	40.75
1980	40.00	38.00	35.00	32.00	32.00	31.50	31.50	30.00	28.50	28.00	28.00	27.00
1981	25.00	25.00	25.00	25.00	25.00	24.25	23.50	23.50	23.50	23.50	23.50	23.50
1982	23.00	23.00	22.50	20.75	20.50	19.25	18.25	17.00	17.00	17.50	19.75	20.25
1983	21.50	21.75	22.25	23.25	23.50	23.50	24.00	24.00	24.00	23.50	22.50	22.00
1984	20.50	17.50	17.00	17.75	17.75	17.50	17.50	17.50	17.50	16.00	15.50	15.25
1985	15.00	**15.00**										

HISTORICAL TRANSACTION VALUES

Determined as of the last day of the month indicated (US Dollars/lb. U_3O_8)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	—	—	—	—	39.60	39.70	39.70	40.40	40.30	40.60	40.70	40.70
1977	41.30	41.30	41.40	41.50	42.80	42.90	43.00	42.60	42.50	42.80	42.90	42.90
1978	43.10	43.30	43.70	43.60	43.60	43.20	43.30	43.40	43.40	43.60	43.40	43.70
1979	43.60	43.80	43.70	43.40	43.60	43.70	43.70	43.60	43.60	43.60	43.50	42.30
1980	42.00	39.30	38.60	38.40	37.90	37.60	37.30	31.60	30.60	29.00	28.70	27.70
1981	27.20	27.20	27.00	25.70	25.70	24.50	24.40	24.30	23.90	24.10	24.10	24.00
1982	24.00	23.70	23.40	22.60	22.70	21.50	20.30	19.10	17.30	17.00	17.55	18.80
1983	19.35	20.00	21.35	21.40	22.35	22.45	23.50	23.60	23.65	23.65	23.85	23.85
1984	23.05	22.50	19.25	17.90	17.00	16.50	16.60	16.40	16.55	16.05	15.90	15.90
1985	16.20	**15.70**										

HISTORICAL CONVERSION VALUES

Determined as of the last day of the month indicated (US Dollars/lb. U as UF_6)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1981	1.20	1.20	1.20	1.40	1.15	1.15	1.15	1.10	1.10	1.10	1.20	1.20
1982	1.20	1.20	1.20	1.20	1.00	1.00	1.00	0.90	1.10	1.60	1.45	1.45
1983	1.20	1.40	1.40	1.20	1.20	1.20	1.10	1.10	1.00	0.60	0.60	0.60
1984	0.60	0.30	0.80	0.80	0.80	0.00	0.00	0.80	1.00	1.00	0.80	0.80
1985	1.00	**1.00**										

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GOVERNMENT STATISTICS

AUSTRALIA

	Price Index of Materials Used in Manufacturing Industry—All Groups[1] (1969=100)	Award Rates of Pay Indexes Australia—Adult Males In Mining Wage and Salary Earners, Weekly Rates[2] (1976=100)
1983 Avg.	401.2	181.8
Nov 1983	395.5	188.3
Dec 1983	399.2	188.1
Jan 1984	399.2	188.6
Feb 1984	402.5	188.5
Mar 1984	403.9	188.3
Apr 1984	404.2	196.2
May 1984	403.8	197.0
Jun 1984	404.9	197.0
Jul 1984	408.5	197.0
Aug 1984	413.3	197.0
Sep 1984	412.1	197.0
Oct 1984	408.6	197.0
Nov 1984	407.2	197.0
Dec 1984	—	197.0

P = Preliminary R = Revised since last month

CANADA

	Industry Selling Price Index: Manufacturing[1] (1971=100)	Wage-earner Data: Average Hourly Earnings (C$)[2] Uranium Mines (SIC 057)	Metal Mines* (SIC 051-059)	Mines, Quarries and Oil Wells[3] (SIC 051-099)	Primary Metal Industries Non-ferrous[4] (SIC 296)	Primary Metal Industries Non-ferrous[4] (SIC 298)	Chemicals and Chemical Products[5] (SIC 372-379)
1983 Avg.	298.8	—	—**	14.30	—	—	11.17
Jan 1984	305.4	17.74	15.27	14.74	11.91	10.84	11.69
Feb 1984	306.6	17.78	15.59	14.90	12.04	10.82	11.51
Mar 1984	308.7	18.05	15.52	14.82	12.14	10.84	11.58
Apr 1984	310.5	18.06	15.83	15.10	11.96	10.34	11.63
May 1984	310.6	18.48	15.64	15.06	12.11	10.16	11.65
Jun 1984	311.0	18.08	15.48	14.80	12.38	10.40	11.66
Jul 1984	312.7	17.81	15 72	14.92	12.53	10.18	11.82
Aug 1984	312.7R	17.24	15.36	14.92	12.44	10.34	11.78
Sep 1984	312.3R	17.68	15.96	15.34	12.51	10.52	11.90
Oct 1984	312.3	17.64	16.15	15.26	12.69	10.56	11.96
Nov 1984	313.6R	18.04R	16.13R	15.43R	12.47	10.51R	11.96R
Dec 1984	314.3R	17.96P	16.21P	15.57P	12.17P	10.45P	12.00P
Jan 1985	315.5P	—	—	—	—	—	—

P = Preliminary R = Revised since last month

For annual averages prior to 1983, and for notes pertaining to these statistics, see pages 23-26 of Report 190 of June 1984.

*The 1980 average for Metal Mines was incorrectly reported as 10.59. The correct average is 10.58 (see Report 190).

**Two different methods were used in the 1983 "Metal Mines" category in reporting survey data, and Statistics Canada did not publish a 1983 average. The March 1983 figure for the old method was 14.73 and for the new method was 14.84. The published average for 1983 in Report 190 was a Nuexco calculation based on the available monthly statistics for 1983 with the exception of the March figure, where only the 14.84 value was taken into account.

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GOVERNMENT STATISTICS

REPUBLIC OF SOUTH AFRICA

	Average Declared Working Costs per per Metric Ton of Gold Ore Milled (Rand)[1]	Tonnage-Weighted Index of Average Working Costs per Metric Ton of Gold Ore Milled (March 1982=100)[2]	Consumer Price Index[3] (1975=100)[4]	Producer Price Index All Groups[5] (1975=100)	Total Employment in Mining and Quarrying (Code 35)[6]	Total Salaries and Wages in Mining and Quarrying (1,000 Rand) (Code 40)[6]
1983 Avg.	51.87	115.0	262.2	274.8	696,579	3,644,772
Dec 1983	53.70	119.6	273.2	283.7	690,750	333,595
Jan 1984	—	—	274.7	283.3	689,807	326,619
Feb 1984	—	—	278.4	286.5	702,553	335,906
Mar 1984	55.30	123.1	281.9	288.0	715,628	342,332
Apr 1984	—	—	286.1	290.2	712,963	327,550
May 1984	—	—	288.3	292.6	710,040	327,937
Jun 1984	56.95	126.2	291.2	295.3	717,009	347,121
Jul 1984	—	—	295.1	296.0	717,121	369,964
Aug 1984	—	—	297.0	300.8	721,905	361,357
Sep 1984	60.64	133.2	299.9	304.1	721,470	359,218
Oct 1984	—	—	303.7	308.7	717,865	363,755
Nov 1984	—	—	307.4	312.8	717,396	369,771
Dec 1984	62.92	138.6	309.4	315.9	—	—
Jan 1985	—	—	177.1*	—	—	—

*The basis for calculation for this index has been revised to January 1980 = 100.

UNITED STATES

	Producer Price Index[1]		Consumer Price Index[2]	GNP Implicit Price Deflator[3]	Gross Average Hourly Earnings of Production or Non-supervisory Workers (US$)[4]			
	Industrial Commodities (1967=100)	All Commodities (1967=100)	(1967=100)	(1972=100)	Metal Mining (SIC 10)	Primary Non-ferrous Metals (SIC 333)	Chemicals and Allied Products (SIC 28)	Electric and Electronic Equipment (SIC 36)
1983 Avg.	315.8	303.1	298.4	215.63	12.57	13.43	10.59	8.65
Dec 1983	318.4	306.1	303.5	218.53	12.75	13.33	10.90	8.84
Jan 1984	319.1	308.0	305.2	—	12.67	13.38	10.91	8.88
Feb 1984	320.6	308.9	306.6	—	12.81	13.34	10.90	8.86
Mar 1984	321.9	311.0	307.3	220.58	12.85	13.33	10.95	8.88
Apr 1984	322.5	311.4	308.8	—	12.91	13.30	10.97	8.89
May 1984	323.3	311.7	309.7	—	12.99	13.37	11.02	8.89
Jun 1984	323.9	311.4	310.7	222.40	12.96	13.40	11.03	8.91
Jul 1984	324.0	312.0	311.7	—	13.02	13.36	11.12	8.95
Aug 1984	323.5	310.9	313.0	—	13.10	13.51	11.13	9.00
Sep 1984	322.3	309.5	314.5	224.57R	13.20	13.39	11.23	9.08
Oct 1984	323.2	309.4	315.3	—	13.23	13.53	11.32	9.09
Nov 1984	323.8	310.4	315.3	—	13.23	13.76	11.35	9.15
Dec 1984	323.0	309.9	315.5	226.10R	13.21	13.65	11.35	9.26
Jan 1985	323.2	309.8	316.1	—	—	—	11.37	9.33

P = Preliminary R = Revised since last month

For annual averages prior to 1983, and for notes pertaining to these statistics, see pages 23-26 of Report 190 of June 1984.

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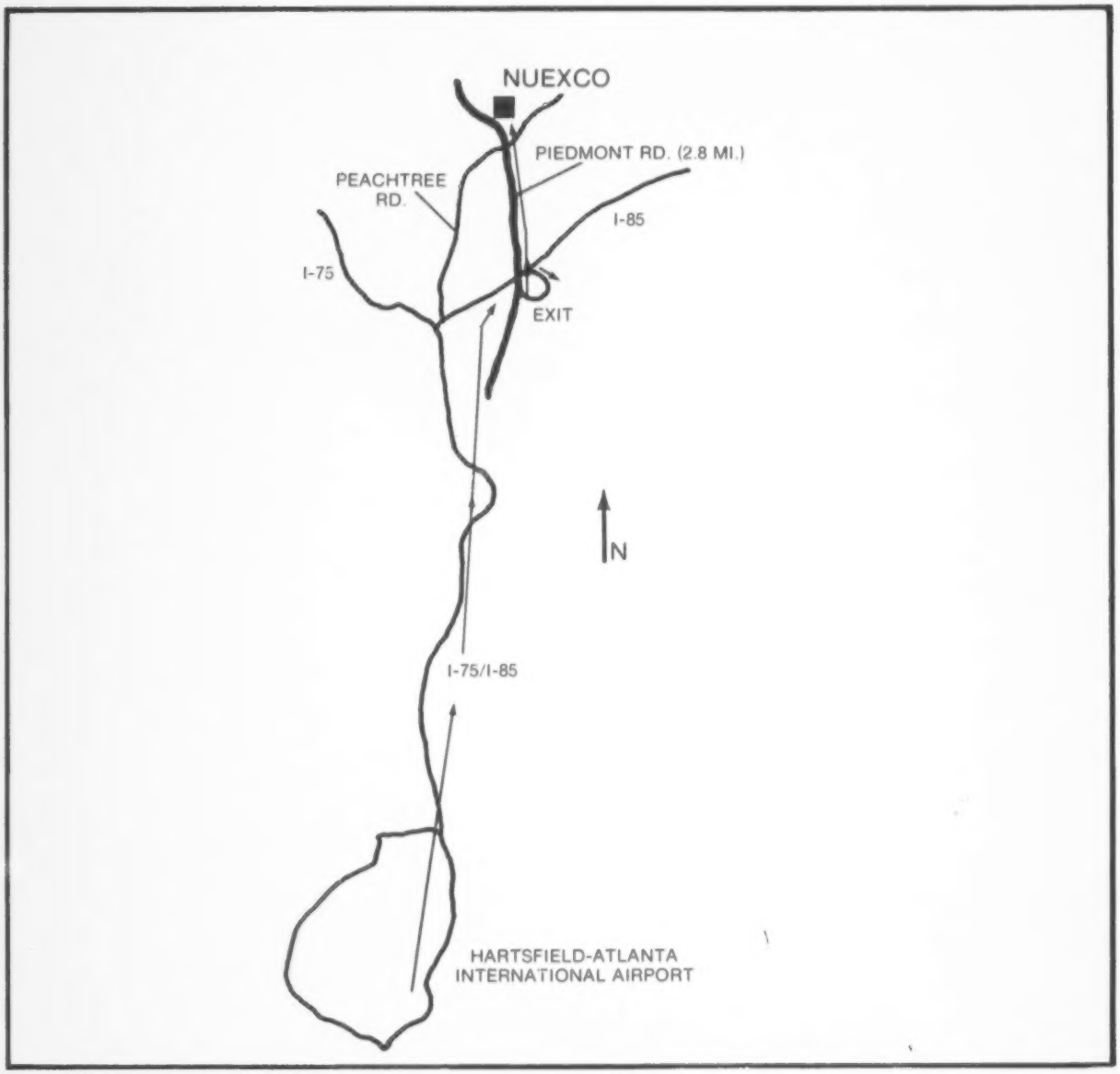

DIRECTIONS TO NUEXCO'S ATLANTA OFFICES

From Hartsfield-Atlanta International Airport:

Take I-75/I-85 North (combined at this point) until it splits. Take I-85 to Piedmont Road exit. Take Piedmont Road to Piedmont Center (2.8 miles on right).

Address: Ten Piedmont Center, Suite 905.
Physical address: 3495 Piedmont Road.

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REPRESENTATIVES AND CONSULTANTS

AUSTRALIA

Peter Stork
Oratom Consulting*
5 Gould Ave.
St. Ives
NSW 2075, Australia
Telephone: (61-2) 449-6783
Telex: 23976 (COMTLX)

JAPAN

Kazy Yokota
Japan Tech Services*
Ohkura Building (3F)
1-4-10 Shiba Daimon
Minato-ku, Tokyo, Japan
Telephone: (81-3) 431-6031, 6025
Telex: 242-5060 (JATECH J)

SOUTH AFRICA

Chris I. Von Christierson
Southern Prospecting (Pty) Limited*
P.O. Box 61409
Marshalltown 2107
Republic of South Africa
Telephone: (27-11) 838-1868
Telex: 4-89878 SA

TAIWAN

Edward Bee
Bee & Liang Company, Ltd.*
14 FL Universal Business Center
NO. 663, Tun Hwa South Road
P.O. Box 1396
Taipei, Taiwan R.O.C.
Telephone: (886-2) 704-9630
TWX: 785-11570 (BEELIANG)

UNITED STATES

Harold C. Lindberg*
83-A Hardee Lane
Whispering Pines, N.C. 28327
Telephone: (919) 949-3622

Ralph O. Smith*
141 Braemar Drive
Cheshire, Connecticut 06410
Telephone: (203) 272-6246

SPECIAL CONSULTANTS

James C. C. Stewart
U.K. Nuclear Industry

Claus C. Thiesen
Japan Nuclear Industry

W. Bryan Webster
International Business Development

*Independent contractors representing Nuexco